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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,140	08/18/2003	J. Richard Aylward	02103-519002/S93 US1	3288
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EXAMINER KURR, JASON RICHARD				
ART UNIT 2614		PAPER NUMBER		
NOTIFICATION DATE 04/05/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

### Office Action Summary

**Application No.**

10/643,140

**Applicant(s)**

AYLWARD ET AL.

**Examiner**

JASON R. KURR

**Art Unit**

2614

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 6, 42 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 42 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 2/17/10
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 17, 2010 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (US 6853732 B2) in view of van der Werff (US 7343018 B2).

With respect to claim 1, Scofield discloses an audio system including a plurality of channels (fig.3 #54,56) intended to be radiated in a predetermined positional relationship to a listener, comprising: a listening area (fig.3 #64) comprising a plurality of listening spaces (fig.3 "spaces occupied by listeners #26"); a first directional local audio device (fig.3 #58) comprising a radiating element radiating sound waves that

destructively interfere more in some directions than the sound waves destructively interfere in other directions, the directional audio device being positioned in a first of said listening spaces (fig.3), close to a head of the listener (fig.3 #26) for radiating first sound waves corresponding to a first of said channels (fig.3 #58, "L-channel"); and a second nonlocal audio device (fig.3 #52), positioned inside said listening area and outside said listening spaces, distant from said first of said listening spaces (col.4 ln.58-63), for radiating sound waves corresponding to said first of said channels (col.4 ln.21-25). It is implied that destructive interference resultant from two separate sound sources (#58 and 60) would not be equal at all points in space, therefore the sound waves would destructively interfere more in some directions when compared to others. Scofield does not disclose expressly wherein the first directional local audio device comprises at least two radiating elements for radiating sounds of a first channel.

van der Werff discloses a directional local audio device comprising at least two radiating elements (fig.5 #1) for directionally radiating sounds of a first channel (col.1 ln.5-14). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the directional array of van der Werff in place of the local audio device #58 of Scofield. The motivation for doing so would have been to increase the intensity of a sound beam directed towards a listeners head while reducing side lobe sound beams that lead to reflective sound noise within an enclosed listening area.

With respect to claim 2, Scofield discloses an audio system in accordance with claim 1, wherein said directional audio devices comprise a plurality of acoustic drivers (van der Werff: fig.5 #1), wherein said acoustic drivers are positioned and arranged to

radiate sound waves that interfere destructively at a first predetermined location in space and to interfere nondestructively at a second predetermined location in space.

With respect to claim 42, Scofield discloses an audio system including a plurality of channels (fig.3 #54,56) intended to be radiated in a predetermined positional relationship to a listener, comprising: a listening area (fig.3 #64) comprising a plurality of listening spaces (fig.3 "spaces occupied by listeners #26"); a first local audio device (fig.3 #58) comprising a radiating element radiating sound waves that destructively interfere more in some directions than the sound waves destructively interfere in other directions, the directional audio device being positioned in a first of said listening spaces, close to a head of the listener (fig.3 #26) for radiating first sound waves corresponding to a first of said channels (fig.3 #58, "L-channel"); and a second nonlocal audio device (fig.3 #52), positioned inside said listening area and outside said first of said listening spaces, distant from said first of said listening spaces (col.4 ln.58-63), for radiating sound waves corresponding to said first of said channels (col.4 ln.21-25). It is implied that destructive interference resultant from two separate sound sources would not be equal at all points in space, therefore the sound waves would destructively interfere more in some directions when compared to others. Scofield does not disclose expressly wherein the first directional local audio device comprises at least two radiating elements for radiating sounds of a first channel.

van der Werff discloses a directional local audio device comprising at least two radiating elements (fig.5 #1) for directionally radiating sounds of a first channel (col.1 ln.5-14). At the time of the invention it would have been obvious to a person of ordinary

skill in the art to use the directional array of van der Werff in place of the local audio device #58 of Scofield. The motivation for doing so would have been to increase the intensity of a sound beam directed towards a listeners head while reducing side lobe sound beams that lead to reflective sound noise within an enclosed listening area.

Claims 6 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (US 6,853,732 B2) in view of van der Werff (US 7343018 B2) and in view of Fabry (US 7,164,773 B2).

With respect to claim 6, Scofield discloses an audio system in accordance with claim 1, however does not disclose expressly wherein said listening area comprises a vehicle passenger compartment and said listening locations comprise seating locations within said vehicle passenger compartment.

Fabry discloses an audio system to be mounted within an automobile (see figure).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the audio system of Scofield in the automobile Fabry. The motivation for doing so would have been to provide a virtual sound system within the cabin of a vehicle so as to provide a realistic reproduced sound to a passenger.

With respect to claim 46, Scofield discloses an audio system in accordance with claim 42, however does not disclose expressly wherein said listening area comprises a vehicle passenger compartment and said listening locations comprise seating locations within said vehicle passenger compartment.

Fabry discloses an audio system to be mounted within an automobile (see figure).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the audio system of Scofield in the automobile Fabry. The motivation for doing so would have been to provide a virtual sound system within the cabin of a vehicle so as to provide a realistic reproduced sound to a passenger.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 42 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON R. KURR whose telephone number is (571)272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason R Kurr/

Examiner, Art Unit 2614

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614